



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/978,469

10/17/2001

Lou King

115426-942

5113

29158 7590 12/20/2006  
BELL, BOYD & LLOYD LLC  
P. O. BOX 1135  
CHICAGO, IL 60690-1135

EXAMINER

PEIKARI, BEHZAD

ART UNIT

PAPER NUMBER

2189

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

12/20/2006

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/978,469	<b>Applicant(s)</b> KING ET AL.	
	<b>Examiner</b> B. James Peikari	<b>Art Unit</b> 2189	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-16 and 18-33 is/are pending in the application.  
4a) Of the above claim(s) 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-16 and 18-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Newly submitted claim 33 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claim 33 includes at least the features of (1) generating a page fault if no physical address is mapped to the physical page, (2) determining whether the physical page to be replaced has been updated, and (3) if no update is determined, freeing a page within the volatile memory and mapping another virtual memory page to the corresponding freed page within the volatile memory, wherein a corresponding page in a hard disk is stored in location of the freed page. None of these features was included in the originally presented invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 33 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Drawings***

2. The drawings are objected to because the none of the view numbers are in accordance with 37 CFR 1.84(u)(1). For example, "FIG. 3A" must replace "Figure 3a". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version

Art Unit: 2189

of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 31 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 31 is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., hard disk 302, RAM 304, a floppy disk, a flexible disk, hard disk, magnetic tape, any other magnetic medium, a CD-ROM, CDRW, DVD, any other optical medium, any other physical medium with patterns of holes or other optically recognizable indicia, a PROM,

Art Unit: 2189

and EPROM, a FLASH-EPROM, any other memory chip or cartridge) and intangible embodiments (e.g., a carrier wave). As such, the claim is not limited to statutory subject matter and is therefore non-statutory. Note MPEP 2106.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 16, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by MEDIC: a memory and disk cache for multimedia client, Edward Chang and Hector Garcia-Melina, hereinafter simply Chang.

Regarding claims 1, 16, 31, and 32, Chang teaches a system for efficient storage of data for use by an application, comprising:

a set top box (page 493, left column, see abstract), including,

a physical memory (page 493, left column, abstract and 3<sup>rd</sup> paragraph; Chang discloses cache memory),

a bulk storage device (page 493, left column, abstract and 3<sup>rd</sup> paragraph; Chang discloses integrated memory), and

a memory management unit (MMU) coupled between said application and said physical memory and said bulk storage device (page 493, left column, abstract, 3<sup>rd</sup> paragraph; page 494; right column, See Fig 1 and 1<sup>st</sup> paragraph),

wherein said physical memory and said bulk storage device are configured to store said data (page 493, left column, abstract and 3<sup>rd</sup> paragraph), and

said MMU is configured to translate a virtual address provided by said application to a physical address used by one of said physical memory and said bulk storage device (page 495, left column, See Fig 2 and 5<sup>th</sup> paragraph; Chang discloses address translation from virtual address to physical address), and to page pages of said data stored in said physical memory to and from said bulk storage device (*note that Chang operates in a page mode, using a page table, which means that pages are paged in and out of memory; note Section 2.1 and Figures 2 and 3*).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 2189

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 3-7, 10, 18-22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over MEDIC: a memory and disk cache for multimedia client, Edward Chang and Hector Garcia-Melina, hereinafter simply Chang, in view of Baldwin (US Patent 7,050,061 B1).

Regarding claims 3-7 and 18-22, Baldwin teaches a system, wherein said MMU is configured to page said pages using an algorithm is based on a least-recently-used, a FIFO (column 26, lines 40-41), a LIFO, and a best fit (it is clear that other algorithms such as LIFO and a best fit can be used). At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the Chang with Baldwin. The motivation for doing so would have been an efficient memory translation from virtual address into physical address (column 7, lines 2-7) and an efficient cache architecture and memory organization (column 22, lines 1-4).

Regarding claims 10 and 25, Baldwin teaches a system, wherein said bulk storage device comprises a hard disk (column 3, lines 48-50).

9. Claims 8-9, 11-15, 23-24, and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over MEDIC: a memory and disk cache for multimedia client,

Art Unit: 2189

Edward Chang and Hector Garcia-Melina, hereinafter simply Chang, in view of Lemmons et al. (US Patent Application 2001/0013126 A1), hereinafter simply Lemmons.

Regarding claims 8 and 23, Chang teaches the limitations of the claims 1, 16, 31 and 32 above. However, Chang does not teach a program guide for a plurality of program sources. Lemmons teaches a system, wherein said data comprises program guide data for said application comprising a program guide for a plurality of program sources (paragraph 40). At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the Chang with Lemmons. The motivation for doing so would have been allowing user to locate programs of interest by applying a restrictive search selection criteria and a nonrestrictive sort attribute to program schedule information (paragraph 190).

Regarding claims 9 and 24, Lemmons teaches a system, wherein said physical memory comprises a random access memory (RAM) (paragraph 44).

Regarding claims 11, 12, 26, and 27, Lemmons teaches a system, further comprising a communications channel (paragraph 40) configured to transmit said program guide data to said set top box, wherein said communications channel is configured as one of a satellite communications channel, a cable communications



Art Unit: 2189

channel, a digital video broadcasting (DVB) communications channel and a terrestrial broadcast communications channel (paragraphs 37, and 120).

Regarding claims 13 and 28, Lemmons teaches a system, wherein said program guide is configured to display said program guide data on a device coupled to said set top box in a tabular form including program times, program channels and program identifications (paragraph 38).

Regarding claims 14 and 29, Lemmons teaches a system, wherein said program identifications include information regarding at least one of actors, ratings, description of programs, cost for pay per view, a frequency of said communications channel, a video channel within said frequency, and an audio channel within said frequency (paragraphs 53 and 82).

Regarding claims 15 and 30, Lemmons teaches a system, wherein said data comprises one of data structures, executable code, displayable user interface data, and Web page data for said application comprising a database application, an executable program application, a user interface program application, and a Web browser program application (paragraphs 25, 84, and 85).

***Response to Arguments***

10. Applicant's arguments filed September 27, 2006 have been fully considered.

(A) The arguments regarding the independent claims are moot in view of the new rejections.

(B) With regard to the dependent claims, applicant's remarks do not mention any of the features of the dependent claims. Since applicant has not rebutted any of the rejections directed to the particular features of these claims, these claims are deemed to stand or fall with the independent claims. Consequently, the rejections of the dependent claims have been maintained from the previous Office action.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Peikari whose telephone number is (571) 272-4185. The examiner is generally available between 7:00 am and 7:30 pm, EST, Monday through Wednesday, and between 5:30 am and 4:00 pm on Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon, can be reached at (571) 272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

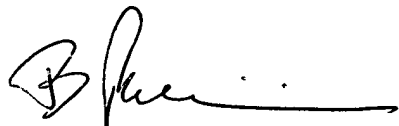
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2189

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'B. James Peikari', with a long horizontal stroke extending to the right.

B. James Peikari  
Primary Examiner  
Art Unit 2189  
12/10/06